BROOKHAVEN NATIONAL LABORATORY

WORK PERMIT # SS2004-039

Work Order # _____ Job # _____ Activity # _____

1. Work requester fills out this section

STANDING WORK PERMIT [ ]

Requester: P. Kroon Date: 4/2/04 Ext. 5114 Dept/Div/Group: PO/PHENIX

Other Contact person (if different from requester): S. MARINO Ext. 3704

Work Control Coordinator P. KROON Start Date 4/5/04 Est. End Date 4/7/04

Description of Work / Problem: Remove and replace electronic cards from G/C-Link crates mounted on back of South muon magnet. Work will be performed during RHIC restricted access period, using The PHENIX vertical man-lift.

Building 1008 Room IR Equipment N/A Service Provider C-A Staff

2. Work requester, service provider, and ES&H (as necessary) fill out this section or attach analysis

ES&H Analysis

RADIATION CONCERNS [✓] NONE [ ] Activation [ ] Airborne [ ] Contamination [ ] Radiation [ ] OTHER _____
[ ] Special nuclear materials involved, notify Isotope Special Materials Group [ ] Fissionable materials involved, notify Laboratory Criticality Officer

SAFETY CONCERNS [ ] NONE

[ ] Adding / Removing Walls or Roofs	[ ] Confined Space*	[✓] Explosives	[ ] Lead*	[ ] Penetrating Fire Wall
[ ] Asbestos*	[ ] Corrosive	[✓] Flammable Gas Detector	[ ] Magnetic Field	[ ] Pressurized Systems
[ ] Beryllium*	[ ] Cryogenic	[ ] Fumes/Mist/Dust*	[ ] Material Handling	[ ] Rigging/Critical Lift
[ ] Biohazard*	[✓] Electrical	[ ] Heat/Cold Stress*	[ ] Noise*	[ ] Toxic Materials*
[ ] Chemicals*	[✓] Elevated Work*	[ ] Hydraulic	[ ] Non-ionizing Radiation	[ ] Vacuum
	[ ] Excavation	[ ] Lasers*	[ ] Oxygen Deficiency*	[ ] OTHER _____

*Does this work require medical clearance or surveillance from the Occupational Medicine Clinic? [ ] Yes [✓] No

ENVIRONMENTAL CONCERNS [✓] NONE

[ ] Atmospheric Discharges (rad/non-rad)	[ ] Liquid Discharges	[ ] Work impacts Environmental Permit No. _____	
[ ] Chemical or Rad Material Storage or Use	[ ] Oil / PCB Management	[ ] Soil activation/contamination	[ ] Waste - Mixed
[ ] Cesspools (UIC)	[ ] Protected areas / species	[ ] Waste - Clean	[ ] Waste - Radioactive
[ ] High water / power consumption	[✓] Spill potential	[ ] Waste - Hazardous	[ ] Waste - Regulated Medical
		[ ] Waste - Industrial	[ ] OTHER _____

Waste disposition by: _____

POLLUTION PREVENTION (P2) / WASTE MINIMIZATION OPPORTUNITY: [✓] None [ ] Yes

Facility Concerns

[✓] NONE

[ ] Access/Egress Limitations	[ ] Impacts Facility Use Agreement	[ ] Temperature Change	[ ] OTHER _____
[ ] Configuration Control	[ ] Maintenance Work on Ventilation Systems	[ ] Utility Interruptions	
[ ] Electrical Noise	[ ] Potential to Cause a False Alarm	[ ] Vibrations	

Work Controls

WORK PRACTICES

[ ] NONE	[ ] Exhaust Ventilation	[✓] Lockout/Tagout Magnet Cradles	[ ] Spill Containment	
[ ] Back-up Person/Watch	[ ] HP Coverage	[ ] Posting/Warning Signs	[ ] Time Limitation	
[ ] Barricades	[ ] IH Survey	[ ] Scaffolding - requires inspection	[ ] Warning alarm (i.e. "high level")	

PROTECTIVE EQUIPMENT

[ ] NONE	[ ] Ear Plugs	[ ] Gloves	[ ] Lab Coat	[ ] Safety Glasses	
[ ] Coveralls	[ ] Ear Muffs	[ ] Goggles	[ ] Respirator	[✓] Safety Harness	
[ ] Disposable Clothing	[ ] Face Shield	[ ] Hard Hat	[ ] Shoe covers	[ ] Safety Shoes	[ ] OTHER _____

PERMITS REQUIRED (*Please attach*)

Initial next to box to show who has responsibility to generate the permit. Permits must be valid when job is scheduled.

[✓] NONE	[ ] Cutting/Welding	[ ] Impair Fire Protection Systems
[ ] Concrete/Masonry Penetration	[ ] Digging/Core Drilling	[ ] Rad Work Permit - RWP No. _____
[ ] Confined Space Entry	[ ] Electrical Working Hot	[ ] OTHER _____

DOSIMETRY/ MONITORING

[✓] NONE	[ ] Heat Stress Monitor	[ ] Real Time Monitor		[ ] TLD
[ ] Air Effluent	[ ] Noise Survey/Dosimeter	[ ] Self-reading Pencil Dosimeter		[ ] Waste Characterization
[ ] Ground Water	[ ] O_2/Combustible Gas	[ ] Self-reading Digital Dosimeter		[ ] OTHER _____
[ ] Liquid Effluent	[ ] Passive Vapor Monitor	[ ] Sorbent Tube/Filter Pump		

Training Requirements (List below any location specific training requirements)

Based on analysis above, the Walkdown Team determines the risk, complexity, and coordination ratings below.

ES&H Risk Level: ___LOW X MODERATE ___HIGH
Complexity Level: X LOW ___MODERATE ___HIGH
Work Coordination: ___LOW X MODERATE ___HIGH

Note: If all the ratings are LOW, the **Work Control Coordinator** and **Service Provider** must sign for concurrence on the back side. Further review of the work permit is **not** required. If any ratings are MODERATE or HIGH, the entire permit must be completed.

3. Both work requester and service provider coordinate on work plan (use attachments for detailed plans)

Work Plan: (procedures, timing, equipment, and personnel availability need to be addressed) See attached.

Special Working Conditions Required: None

Operational Limits Imposed: NO

Post Work Testing Required: NO

Job Safety Analysis Required ___ Yes ✓ No Walkdown Required ___ Yes X No

Reviewed By: *Primary Reviewer will determine the size of the review team and the other signatures required based on hazards and job complexity. Primary Reviewer signature means that the hazards and risks that could impact ES&H have been identified and will be controlled according to BNL requirements.*

Title	Name (print)	Signature	Life #	Date
Primary Reviewer	Arthur J Piper		18661	4/2/04
ES&H Professional	P. Cunningham		21868	4/2/04
Other				
Other	C. Pearson		15245	4/2/04
Work Control Coordinator*	P. Kroon		17500	4/2/04
Service Provider*				

Only signatures required for concurrence on LOW rated jobs. *Review done: in series team*

4. Job site personnel fills out this section

Note: Signature indicates personnel performing work have read and understand the hazards and permit requirements (including attached permits).

Job Site Supervisor [signature] Contractor Supervisor ___

Workers:	Life #	Workers:	Life #
Michael J Reitzel	L6206	___	___
John Hill (SL)	H0652	___	___
[signature]	U8234	___	___
[signature]	___	___	___

Workers are encouraged to provide feedback on ES&H concerns or on ideas for improved job work flow. Use feedback form or space below.

5. Work Requester or designee fills out this section

Conditions are Appropriate to Start Work: (Work permit has been reviewed, work controls are in place, and site is ready for job.)

Name P. Kroon Signature [signature] Life # 17500 Date 4/5/04

6. Work Requester determines if Post Job Review is required X No ___ Yes (Fill in names of reviewers)

Post Job Review:

Name: ___ Signature ___ Life #: ___ Date: ___

Name: ___ Signature ___ Life #: ___ Date: ___

7. Worker provides feedback

Worker Feedback: None

8. Work Control Coordinator (requesting dept.) checks quality of completed permit and closes out

Closeout: Name P. KROON Signature [signature] Life #: 17500 Date: 4/7/04

Comments: Didn't need to open large rolling door.

Work Plan Attachment WP# 552004-039

Remove and Repair electronic cards from C-link/G-link crates on south muon magnet in PHENIX IR, Bldg. 1008.

This work is to be done during the three-day RHIC restricted access period, by fully trained and experienced personnel. Since the crates are located on the back of the south muon magnet (MMS) at heights of up to 26 feet, the vertical man-lift will be moved into the IR for this job, and removed upon completion. Flammable gas will be present in detectors in the IR, but not in the vicinity of the work. All work in the IR will be supervised by Sal Marino, under the cognizance of the PHENIX shift leader (SL).

- Ensure that the power to the Crates is secured and the MMS magnet power key is locked out of use (Marino, SL)).

- Ensure that the 12-ton IR Crane is locked out (Marino).

- Roll the vertical man lift into the IR through the plug door if possible. If not, the large rolling door may be opened temporarily, but closed again after the lift is inside (Marino).

- Roll the man lift into position behind the MMS and use it to access the crates (Marino, M. Leitch).

- Work will involve removal, repair and replacement of defective cards (Leitch).

- Upon completion of the work, the man lift will be removed from the IR (Marino).